

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions:

1. (Previously Presented) A method comprising:

registering an attribute to a distributed dictionary for a plurality of nodes in a network having an unknown topology, said attribute comprising a key to index the attribute, a value associated with the key, and an incarnation identifier for the value.

2. (Previously Presented) The method of claim 1 wherein registering the attribute comprises:

obtaining the value associated with the key;
determining the incarnation identifier for the value; and
combining the key, the value, and the incarnation number into the attribute.

3. (Previously Presented) The method of claim 1 wherein registering the attribute comprises:

multicasting the attribute to the plurality of nodes in the network.

4. (Previously Presented) The method of claim 1 further comprising:

registering a modified attribute to the distributed dictionary, the modified attribute comprising the key, a modified value, and a new incarnation identifier.

5. (Currently Amended) The method of claim 4 wherein registering the modified attribute comprises:

obtaining the modified value ~~associated the~~ associated with the key;
determining the new incarnation identifier for the modified value;
combining the key, the modified value, and the new incarnation identifier into the modified attribute; and
multicasting the modified attribute to the distributed dictionary.

6. (Previously Presented) The method of claim 1 wherein registering the attribute comprises:

Q¹⁴ receiving the attribute in a multicast from a reporting node at one of the plurality of nodes; and
storing the attribute to local memory based at least in part on the key.

7. (Previously Presented) The method of claim 6, wherein the attribute comprises a first attribute, and wherein storing the attribute comprises:

identifying a second attribute stored in the local memory having the same key;
comparing the incarnation identifier of the first attribute to an incarnation identifier of the second attribute; and
maintaining a newer attribute of the first and second attributes having a most current incarnation identifier.

8. (Previously Presented) The method of claim 7 further comprising:

deregistering an older attribute of the first and second attributes having an older incarnation identifier.

9. (Previously Presented) The method of claim 8 wherein deregistering comprises at least one of:

over-writing the older attribute in the local memory with the newer attribute value; and

storing the older attribute value until the older attribute value expires.

10. (Previously Presented) The method of claim 7 wherein maintaining the new attribute comprises presenting the new attribute to an application of the one of the plurality of nodes.

11. (Previously Presented) The method of claim 1 wherein the distributed dictionary comprises equivalent sets of registered attributes stored locally at each node of the plurality of nodes.

12. (Currently Amended) The method of claim 1 wherein the network comprises at least one of a local area network (LAN) and or a switch stack.

13. (Previously Presented) The method of claim 1 wherein the plurality of nodes comprise a plurality of switches comprising a switch stack.

14. (Previously Presented) The method of claim 1 wherein registering the attribute utilizes a multicast protocol.

15. (Previously Presented) The method of claim 14 wherein the multicast protocol comprises a generic attribute registration protocol (GARP).

16. (Previously Presented) An article comprising:

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a machine readable storage medium having stored thereon executable instructions to implement registering an attribute to a distributed dictionary for a plurality of nodes in a network having an unknown topology, said attribute comprising a key to index the attribute, a value associated with the key, and an incarnation identifier for the value.

17. (Previously Presented) The article of claim 16 wherein registering the attribute comprises:

obtaining the value associated with the key;
determining the incarnation identifier for the value; and
combining the key, the value, and the incarnation number into the attribute.

18. (Previously Presented) The article of claim 16 wherein registering the attribute comprises:

receiving the attribute in a multicast from a reporting node at one of the plurality of nodes; and

storing the attribute to local memory based at least in part on the key.

19. (Previously Presented) An apparatus comprising:

a processor; and

a machine readable storage medium coupled to said processor, said machine readable medium having stored thereon executable instructions that when executed by the processor implement registering an attribute to a distributed dictionary for a plurality of nodes in a network having an unknown topology, said attribute comprising a key to index the attribute, a value associated with the key, and an incarnation identifier for the value.

20. (Previously Presented) The apparatus of claim 19 wherein registering the attribute comprises:

obtaining the value associated with the key;

determining the incarnation identifier for the value; and

combining the key, the value, and the incarnation number into the attribute.

21. (Previously Presented) The apparatus of claim 19 wherein registering the attribute comprises:

receiving the attribute in a multicast from a reporting node at one of the plurality of nodes; and

storing the attribute to local memory based at least in part on the key.

22. (New) The method of claim 1 wherein registering the attribute comprises:

receiving the attribute in a multicast from a reporting node at one of the plurality of nodes;

comparing the key to keys of any previously stored attributes;

if the key has not been previously stored, storing the attribute and a receiving port identifier at which the attribute was received;

if the key has been previously stored, comparing the incarnation identifier to the previously stored incarnation identifier of the corresponding previously stored attribute;

if the key has been previously stored and the incarnation identifier is new, storing the attribute and the receiving port identifier;

if the key has been previously stored and the incarnation identifier has been previously stored, comparing the receiving port identifier to the previously stored receiving port identifier of the corresponding previously stored attribute;

if the key has been previously stored, the incarnation identifier has been previously stored, and the receiving port identifier has been previously stored, refreshing the attribute; and

if the key has been previously stored, the incarnation identifier has been previously stored, and the receiving port identifier has not been previously stored, ignoring the attribute.

23. (New) The article of claim 16 wherein registering the attribute comprises:

receiving the attribute in a multicast from a reporting node at one of the plurality of nodes;

comparing the key to keys of any previously stored attributes;

if the key has not been previously stored, storing the attribute and a receiving port identifier at which the attribute was received;

if the key has been previously stored, comparing the incarnation identifier to the previously stored incarnation identifier of the corresponding previously stored attribute;

if the key has been previously stored and the incarnation identifier is new, storing the attribute and the receiving port identifier;

if the key has been previously stored and the incarnation identifier has been previously stored, comparing the receiving port identifier to the previously stored receiving port identifier of the corresponding previously stored attribute;

if the key has been previously stored, the incarnation identifier has been previously stored, and the receiving port identifier has been previously stored, refreshing the attribute; and

if the key has been previously stored, the incarnation identifier has been previously stored, and the receiving port identifier has not been previously stored, ignoring the attribute.

24. (New) The apparatus of claim 19 wherein registering the attribute comprises:

receiving the attribute in a multicast from a reporting node at one of the plurality of nodes;

comparing the key to keys of any previously stored attributes;

if the key has not been previously stored, storing the attribute and a receiving port identifier at which the attribute was received;

if the key has been previously stored, comparing the incarnation identifier to the previously stored incarnation identifier of the corresponding previously stored attribute;

if the key has been previously stored and the incarnation identifier is new, storing the attribute and the receiving port identifier;

if the key has been previously stored and the incarnation identifier has been previously stored, comparing the receiving port identifier to the previously stored receiving port identifier of the corresponding previously stored attribute;

if the key has been previously stored, the incarnation identifier has been previously stored, and the receiving port identifier has been previously stored, refreshing the attribute; and

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